

Name: _____

at1113exam: Expand, factor, and solve quadratics (v220)

1. Solve the equation.

$$(5x - 6)(4x + 3) = 0$$

$$x = \frac{6}{5} \quad x = \frac{-3}{4}$$

2. Expand the following expression into standard form.

$$(5x + 7)(3x + 4)$$

$$\begin{aligned} & 15x^2 + 20x + 21x + 28 \\ & 15x^2 + 41x + 28 \end{aligned}$$

3. Expand the following expression into standard form.

$$(5x + 9)(5x - 9)$$

$$\begin{aligned} & 25x^2 - 45x + 45x - 81 \\ & 25x^2 - 81 \end{aligned}$$

4. Expand the following expression into standard form.

$$(7x - 5)^2$$

$$\begin{aligned} & 49x^2 - 35x - 35x + 25 \\ & 49x^2 - 70x + 25 \end{aligned}$$

5. Factor the expression.

$$25x^2 - 9$$

$$(5x + 3)(5x - 3)$$

6. Solve the equation with factoring by grouping.

$$10x^2 + 8x - 15x - 12 = 0$$

$$(2x - 3)(5x + 4) = 0$$
$$x = \frac{3}{2} \quad x = -\frac{4}{5}$$

7. Solve the equation.

$$5x^2 + 4x - 10 = 2x^2 + 5x + 4$$

$$3x^2 - x - 14 = 0$$
$$(3x - 7)(x + 2) = 0$$
$$x = \frac{7}{3} \quad x = -2$$

8. Factor the expression.

$$x^2 - 2x - 63$$

$$(x + 7)(x - 9)$$